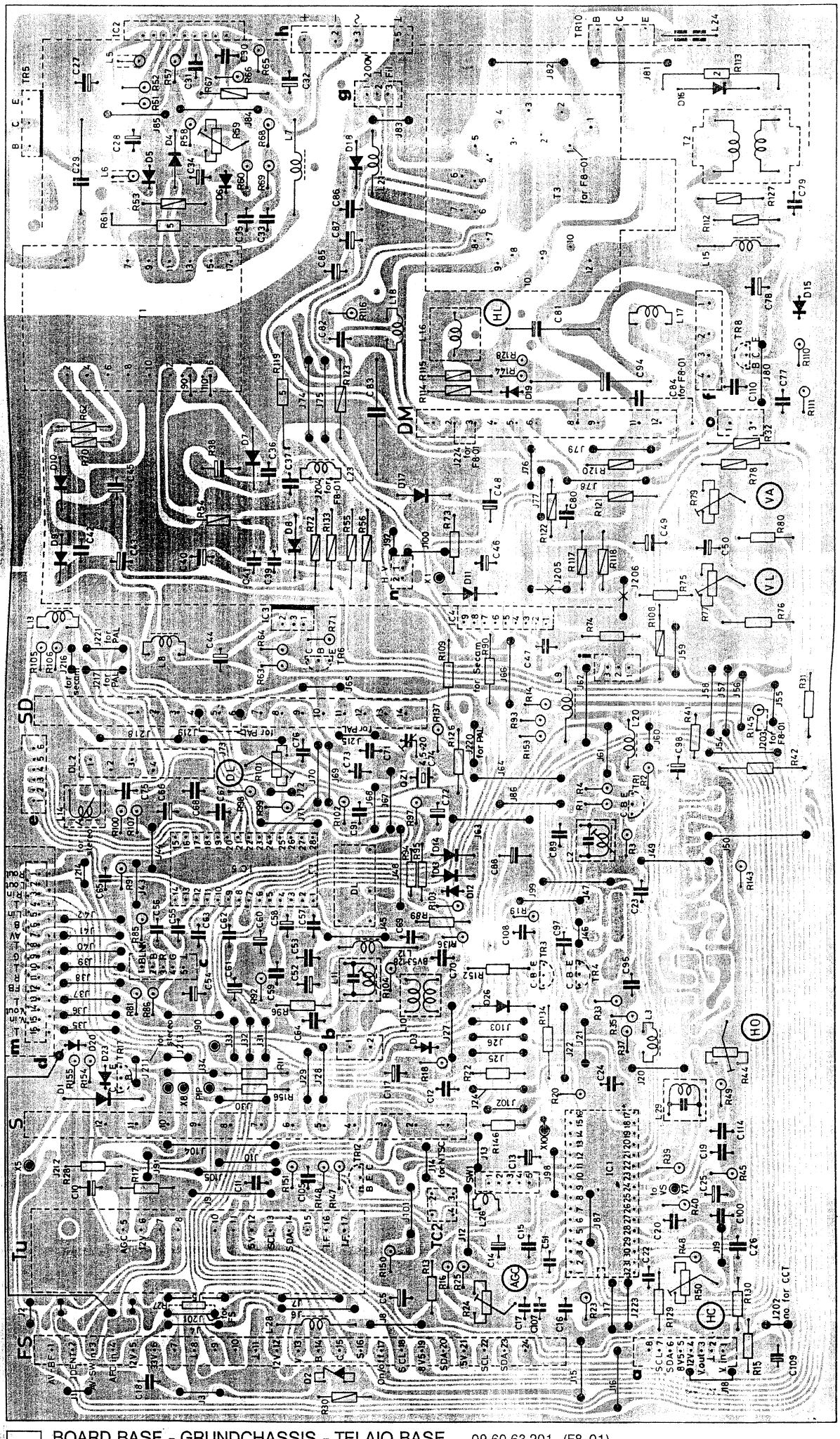
SCHALTBILD

UHER

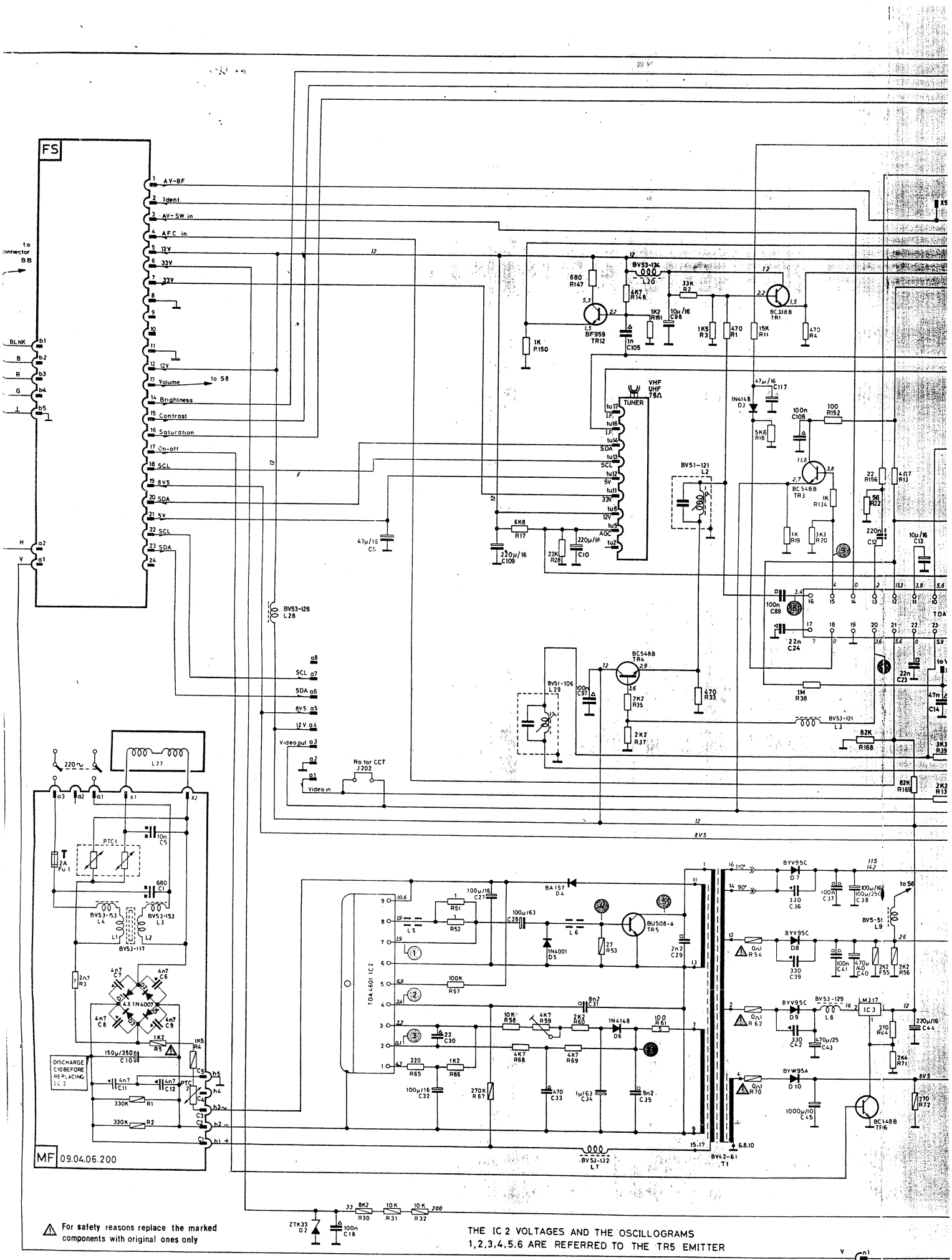
Farbfernsehgerät

O.S.D.
702 091

ACHTUNG - Kopie von Kopie
! nicht besser möglich !

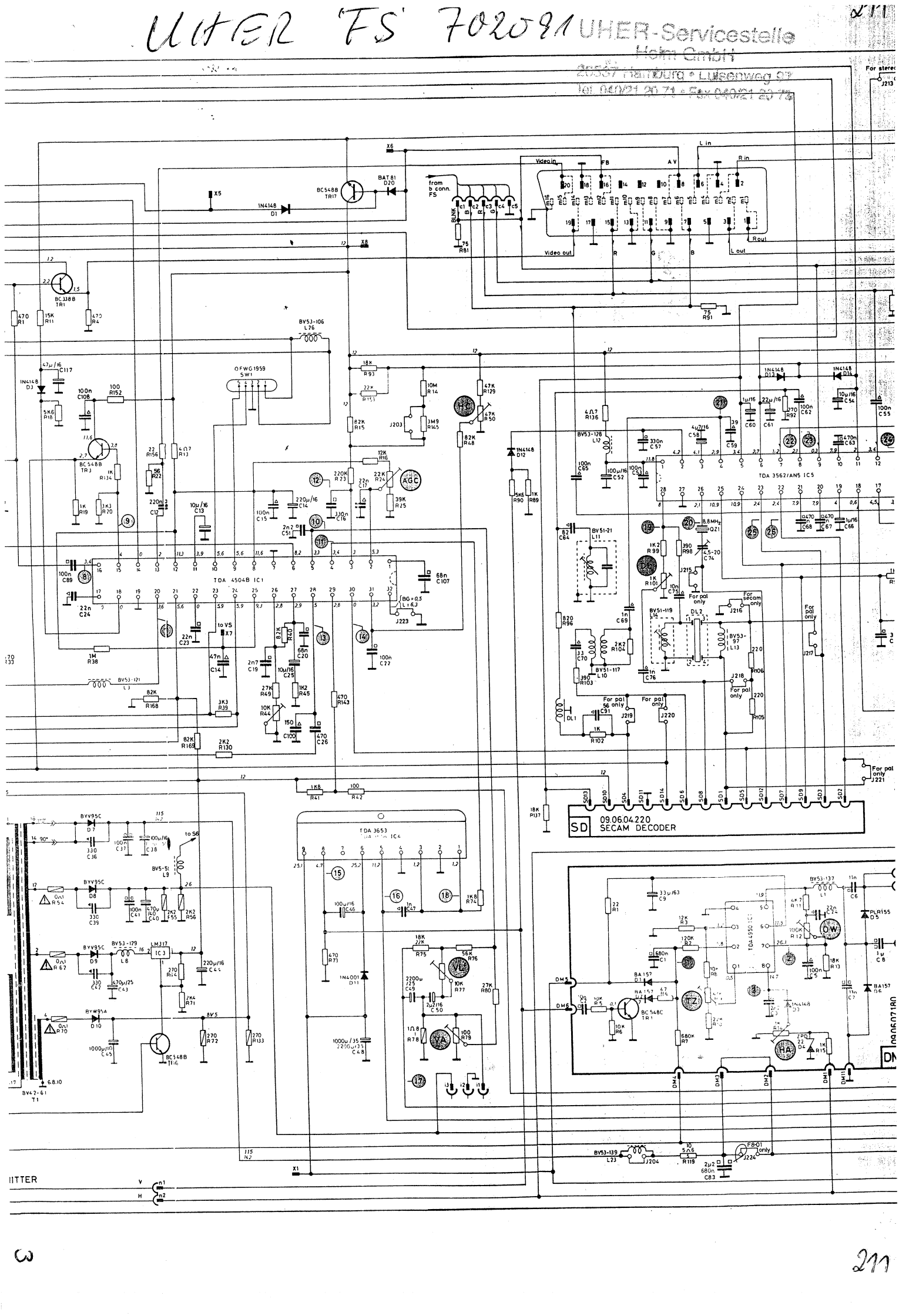


BB BOARD BASE - GRUNDCHASSIS - TELAIO BASE 09.60.63.201 (F8-01)
09.60.64.201 (F9-01)


FS
1 AV-BF
2 Ident
3 AV-SW in
4 AFC in
5 12V
6 33V
7 33V
8
9
10
11
12 12V
13 Volume
14 Brightness
15 Contrast
16 Saturation
17 On-off
18 SCL
19 8V5
20 SDA
21 5V
22 SCL
23 SDA
24
to connector BB
BLNK b1
B b2
R b3
G b4
L b5
H a2
V a1
to S8
BV53-134 L20
680 R147
4K7 R148
33K R2
BF959 TR12
1K R150
1K2 R151
10µ/16 C98
1n C105
1K5 R3
470 R1
15K R11
470 R4
BC338B TR1
VHF UHF 75Ω
TUNER
tu17
tu16
tu14
tu13
tu12
tu11
tu6
tu5
tu2
47µ/16 C117
IN4148 D3
100n C108
100 R152
5K6 R18
BC548B TR3
1K R134
22 R156
4n7 R13
56 R22
220n C12
1K R19
3K3 R20
10µ/16 C13
6K8 R17
220µ/16 C109
22K R28
220µ/16 C10
47µ/16 C5
BV51-121 L2
BV53-128 L28
BV51-106 L29
BC548B TR4
100n C97
7K2 R35
470 R33
2K2 R37
1M R38
22n C24
22n C23
47n C14
82K R168
82K R169
3K3 R39
2K2 R13
TDA
SCL a7
SDA a6
8V5 a5
12V a4
Videoput a3
a2
a1
Video in
No for CCT J202
8V5
220~
L77
X1
X2
PTC1
T 2A FU1
10n C5
680 C1
BV53-153 L4
BV53-153 L3
BV53-117 L1 L2
2n7 R3
4n7 C7
4n7 C6
4n7 C8
4n7 C9
4 X 1N4007
1K2 R5
1K5 R4
150µ/350 C10
DISCHARGE C10 BEFORE REPLACING IC 2
4n7 C11
4n7 C12
PTC 2
330K R1
330K R2
C5
C4
C3
C2
C1
h5
h4
h3
h2
h1
MF 09.04.06.200
TDA 4601 IC2
100µ/16 C27
BA157 D4
100µ/63 C28
L5
L6
R51
R52
1N4001 D5
27 R53
BU508-A TR5
2n2 C29
100K R57
8n2 C31
10K R58
4K7 R59
2K2 R60
1N4148 D6
100 R61
22 C30
0µ1 C30
220 R65
1K2 R66
4K7 R68
4K7 R69
100µ/16 C32
270K R67
470 C33
1µ/63 C34
8n2 C35
BV53-132 L7
BV42-61 T1
6.8.10
15.17
BYV95C D7
330 C36
100n C37
100µ/16 C38
100µ/25 C38
BV5-51 L9
to S6
BYV95C D8
330 C39
0Ω1 R54
100n C41
470µ/40 C40
2K2 F55
2K2 R56
BYV95C D9
330 C42
0Ω1 R62
BV53-129 L8
LM317 IC 3
270 R74
220µ/16 C44
270µ/25 C43
2K4 R71
BYW95A D10
0Ω1 R70
1000µ/10 C45
BC548B TR6
270 R72
8V5
ZTK33 D2
100n C18
33 R30
8K2 R30
10K R31
10K R32
200
For safety reasons replace the marked components with original ones only
THE IC 2 VOLTAGES AND THE OSCILLOGRAMS 1,2,3,4,5.6 ARE REFERRED TO THE TR5 EMITTER
V n1
H n2

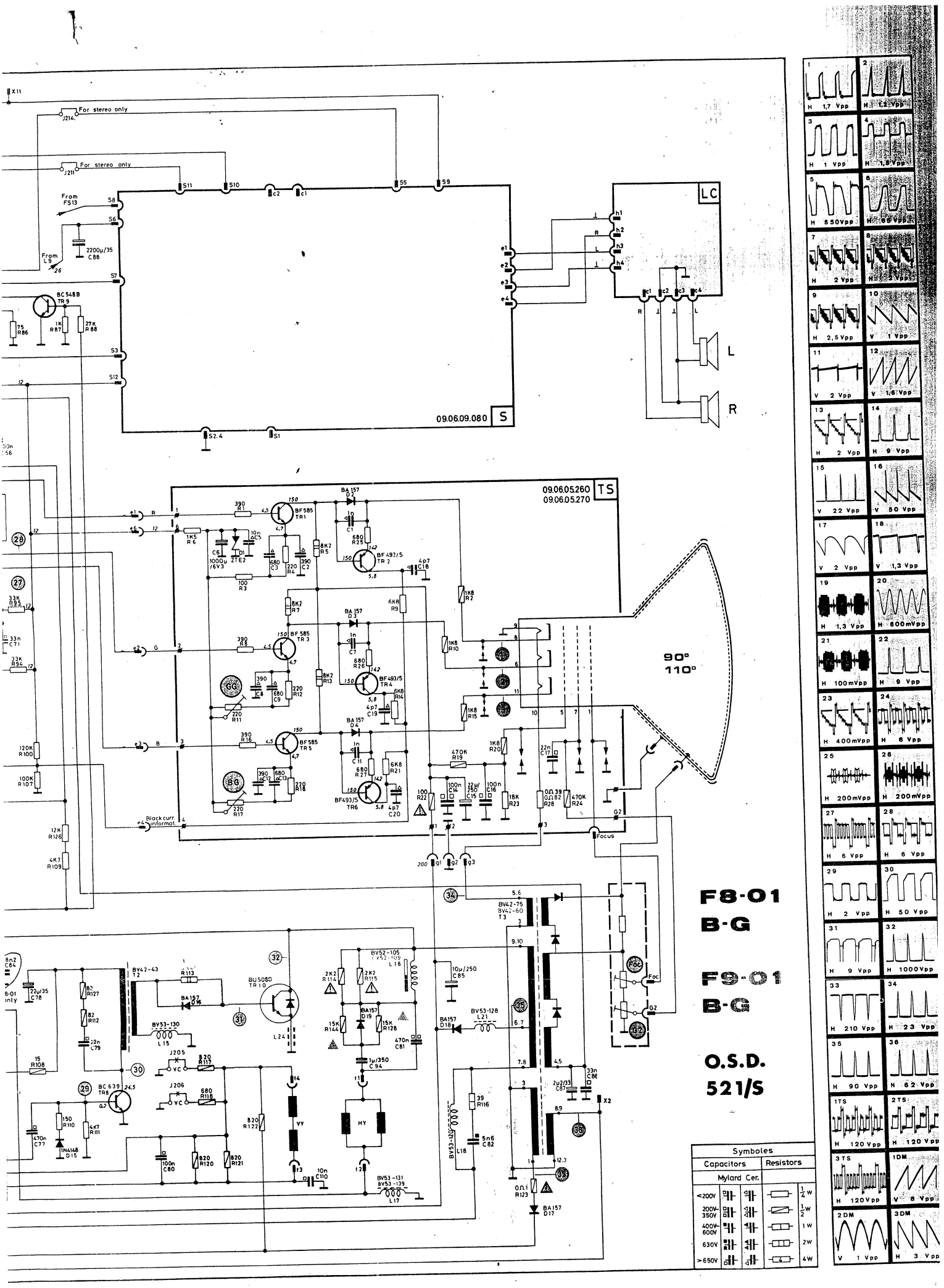
UHER FS 702091

UHER-Servicestelle
Holm GmbH
2000 Hamburg 6 · Lüsenweg 87
Tel. 040/01 20 73 · Fax 040/01 20 73

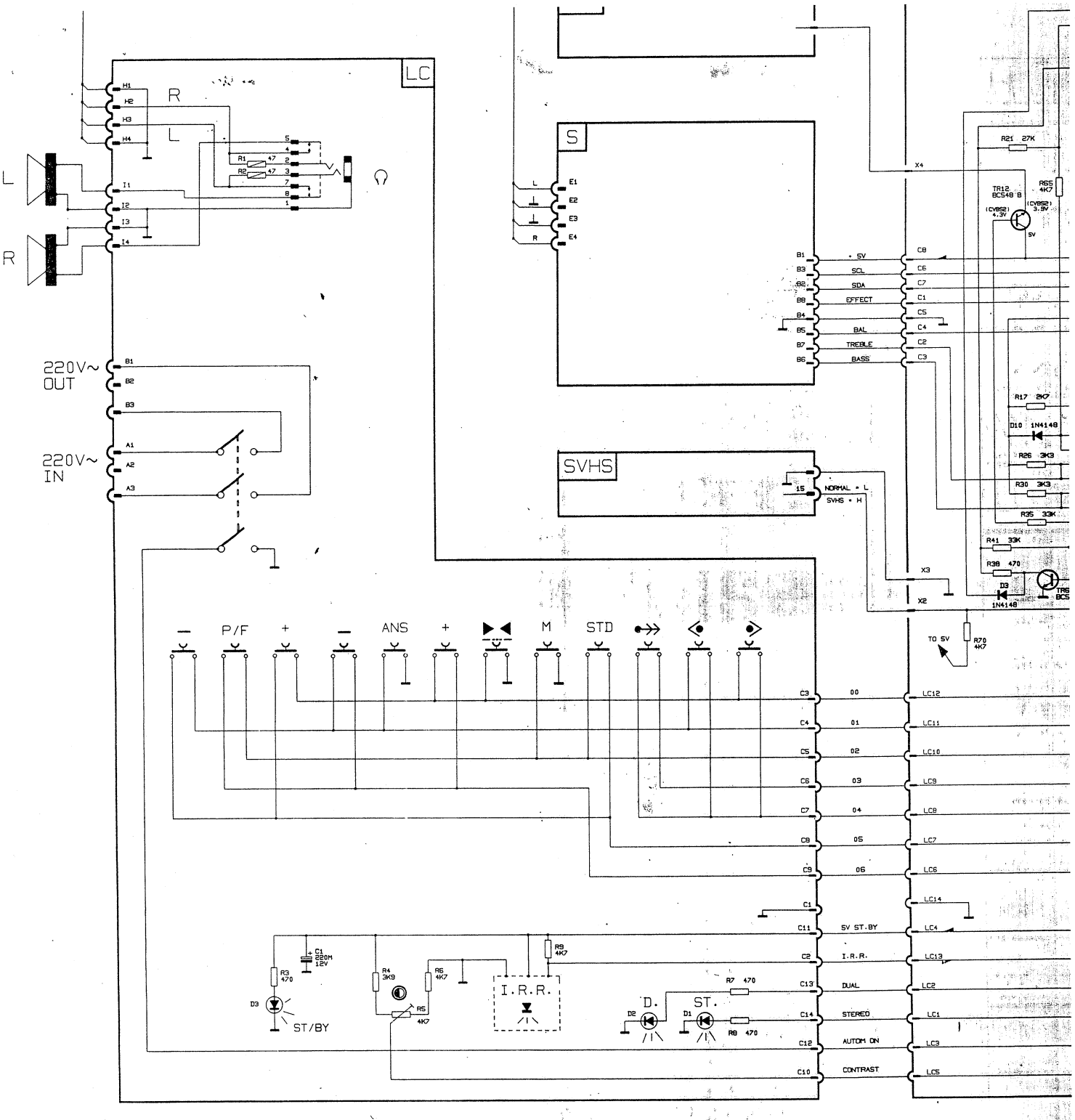


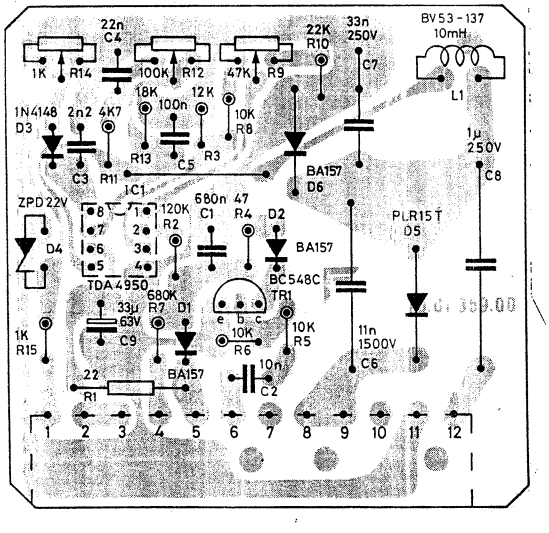
IITTER

V n1
H n2


X11
For stereo only
J214
For stereo only
J211
From FS13
From L9
S11
S10
S5
S9
S8
S6
S7
S3
S12
S2.4
S1
2200µ/35 C88
BC548B TR9
75 R86
1K R87
27K R88
LC
h1
h2
h3
h4
e1
e2
e3
e4
c1
c2
c3
c4
L
R
09.06.09.080 S
09.06.05.260
09.06.05.270 TS
BA 157 D2
BF585 TR1
BF 493/S TR 2
BF585 TR 3
BF493/S TR4
BF585 TR 5
BF493/S TR6
BA 157 D3
BA 157 D4
1K5 R6
8K2 R5
1K8 R2
6K8 R9
8K2 R7
1K8 R10
8K2 R13
6K8 R14
1K8 R15
6K8 R21
1K8 R20
470K R19
18K R23
0Ω39 R28
470K R24
100 R22
100n C14
22µ/250 C15
100n C16
22n C17
4p7 C18
4p7 C19
4p7 C20
680 R25
680 R26
680 R27
1n C1
1n C7
1n C11
1n C8
1n C12
1n C13
680 C3
680 C9
680 C12
680 C13
220 R4
220 R12
220 R18
220 R11
220 R17
390 C2
390 R1
390 R8
390 R16
390 C8
100 R3
10n ΔC5
C6 1000µ /6V3
D1 ZTE2
120K R100
100K R107
12K R126
4K7 R109
33K R85
33K R84
33n C71
Black curr informat
90°
110°
G2
Focus
G1
G3
200
BV42-75 BV42-60 T3
BV42-43 T2
BU508D TR10
BV52-105 BV52-109 L16
BV53-128 L21
BV53-130 L15
BV53-131 BV53-139 L17
BV53-120 L18
L24
BA157 D16
BA157 D18
BA157 D19
BA157 D17
2K2 R114
2K2 R115
15K R144
15K R128
470n C81
10µ/250 C85
1µ/350 C94
2µ2/33 C87
33n C86
39 R116
5n6 C82
0Ω1 R123
820 R113
820 R117
820 R118
820 R122
820 R120
820 R121
J205
J206
VC
VY
HY
10n C110
100n C80
22µ/35 C78
82 R127
82 R112
22n C79
15 R108
BC 639 TR8
150 R110
4K7 R111
1N4148 D15
470n C77
X2
F8-01
B-G
F9-01
B-G
O.S.D.
521/S
Symboles
Capacitors
Mylard Cer.
Resistors
<200V
200V-350V
400V-600V
630V
>650V
1/4 W
1/2 W
1 W
2 W
4W

1 H 1,7 Vpp
2 H 1,2 Vpp
3 H 1 Vpp
4 H 1,5 Vpp
5 H 550Vpp
6 H 68 Vpp
7 H 2 Vpp
8 H 2 Vpp
9 H 2,5 Vpp
10 V 1 Vpp
11 V 2 Vpp
12 V 1,6 Vpp
13 H 2 Vpp
14 H 9 Vpp
15 V 22 Vpp
16 V 50 Vpp
17 V 2 Vpp
18 V 1,3 Vpp
19 H 1,3 Vpp
20 H 600mVpp
21 H 100mVpp
22 H 9 Vpp
23 H 400mVpp
24 H 6 Vpp
25 H 200mVpp
26 H 200mVpp
27 H 6 Vpp
28 H 6 Vpp
29 H 2 Vpp
30 H 50 Vpp
31 H 9 Vpp
32 H 1000Vpp
33 H 210 Vpp
34 H 23 Vpp
35 H 90 Vpp
36 H 62 Vpp
1TS H 120 Vpp
2TS H 120 Vpp
3TS H 120Vpp
1DM V 6 Vpp
2DM V 1 Vpp
3DM H 3 Vpp





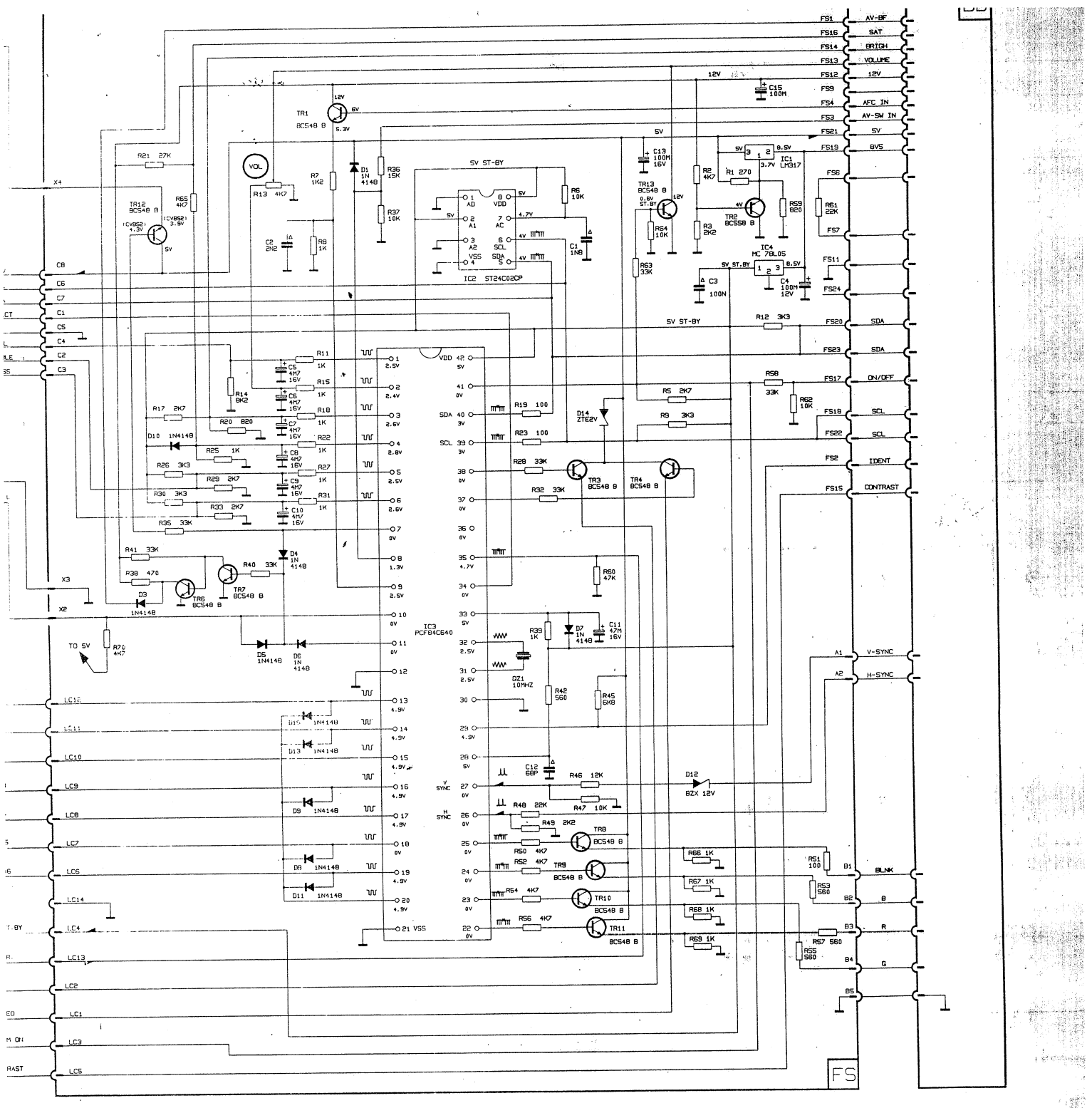
DM

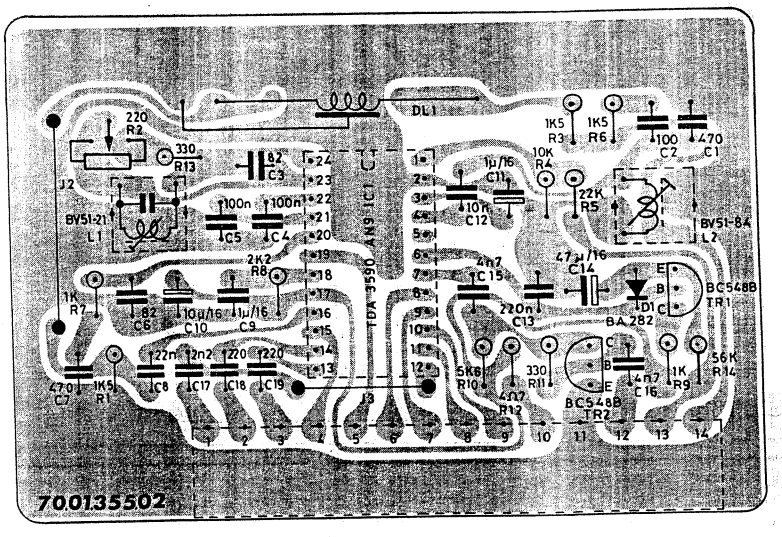
MODULE EST/OUEST
DIODENMODULATOR
MODULATORE A DIODI
09.06.07.180

PLAN DRAWING COPPER SIDE

BESTUECKUNGSPLAN KUPFERSEI

PLANS CÔTE CUIVRE

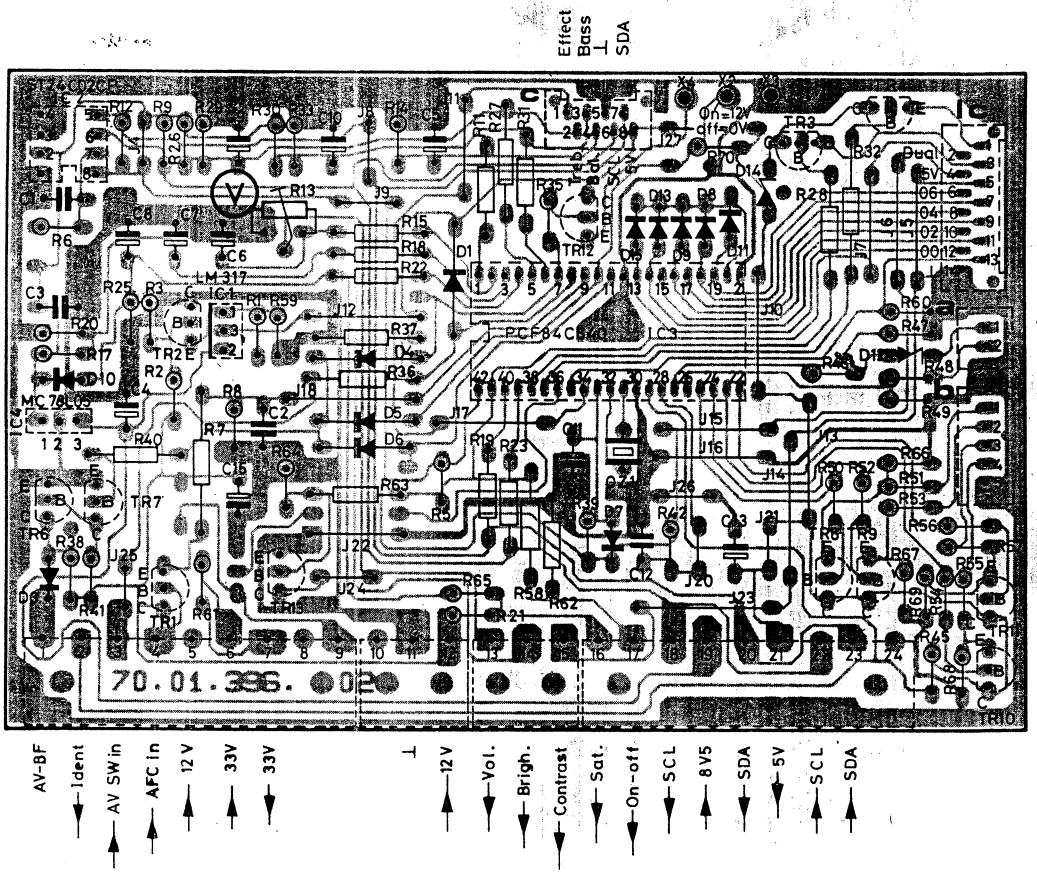




MING COPPER SIDE

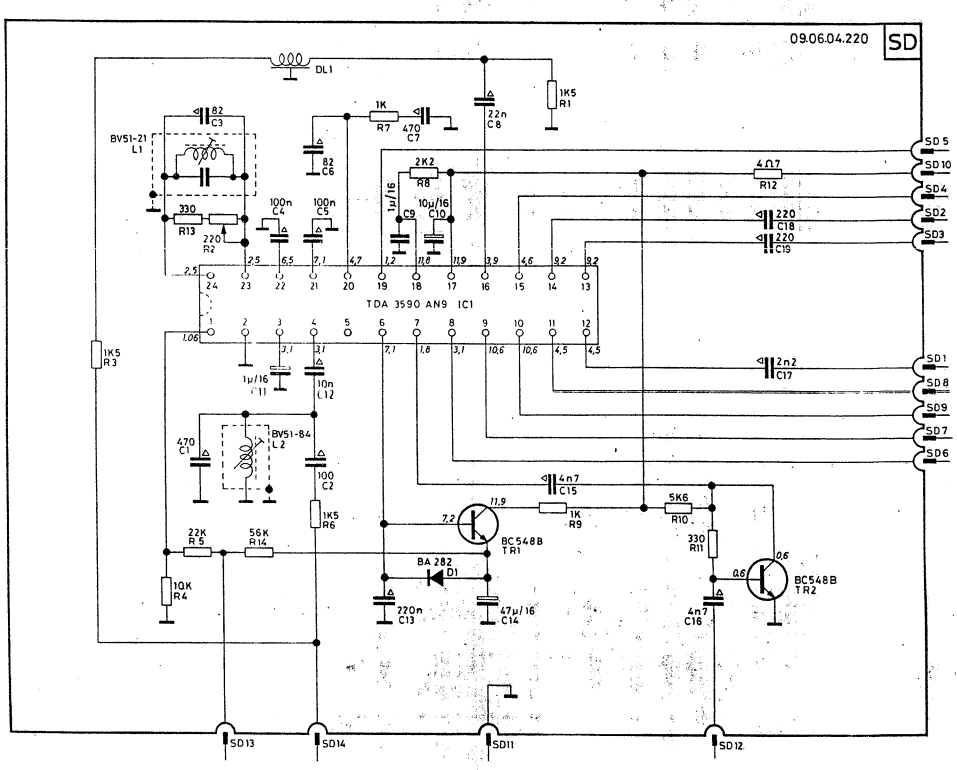
UNGSPLAN KUPFERSEITE

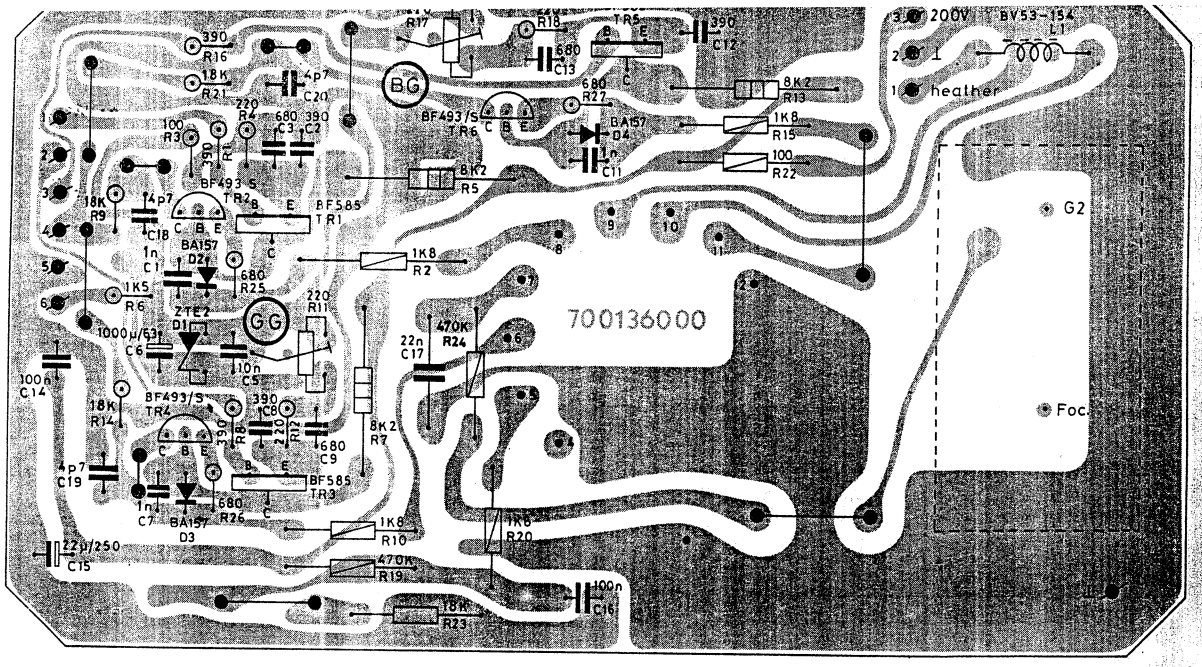
TE CUIVRE



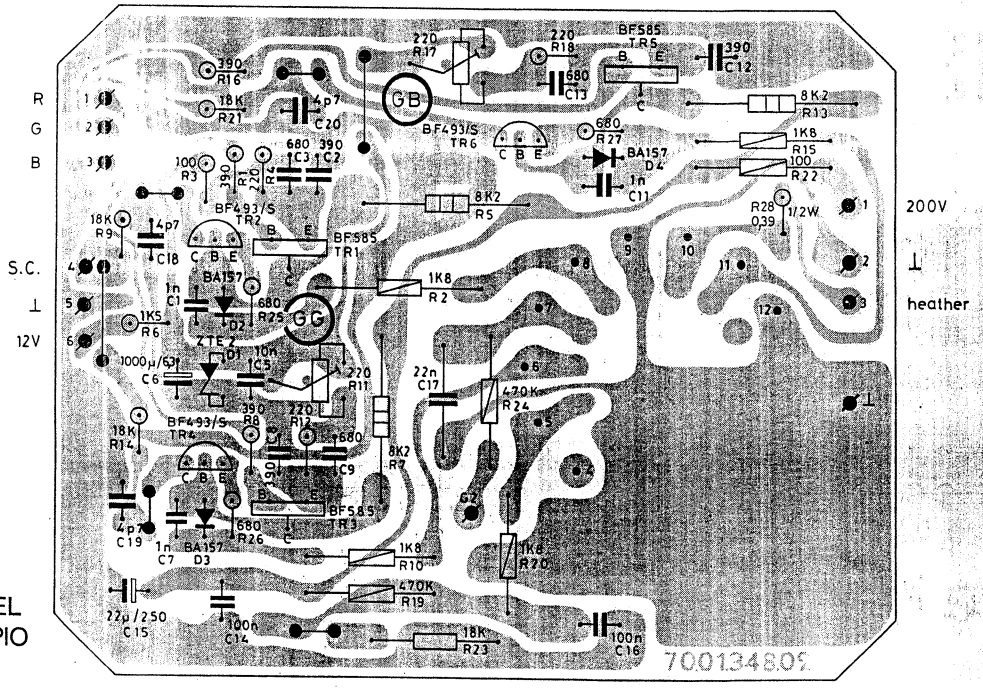
FS FREQUENCY SYNTHESIZER
SINTESI DI FREQUENZA

AM DECODER
ODIFICATORE SECAM
.04.220

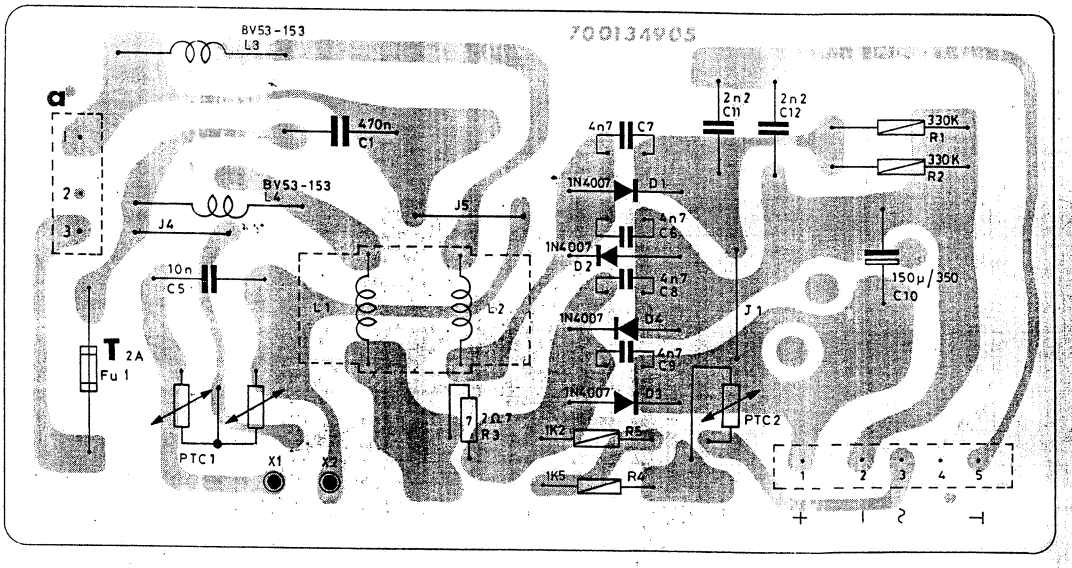




TS TUBE SOCKET
BILDROEHRENSOCKEL
ZOCCOLO CINESCOPIO
09.06.05.270

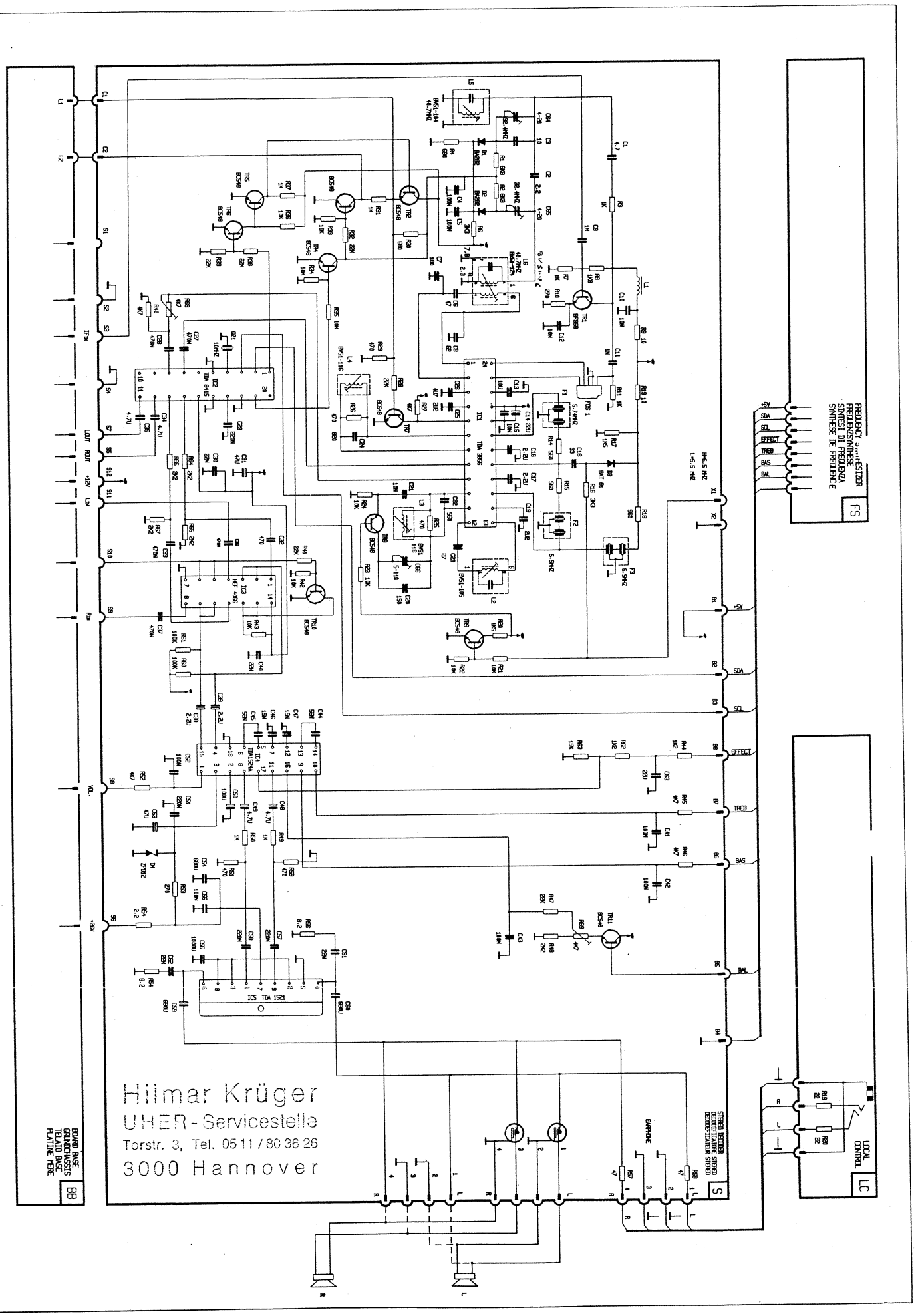


TS TUBE SOCKET
BILDROEHRENSOCKEL
ZOCCOLO CINESCOPIO
09.06.05.260



MF MAINS FILTER
NEITZFILTER
FILTRO RETE
09.04.06.200

OSD-F5
BLANK
B
G
R
C1
C2
C3
C4
C5
BOARD BASE
GRUNDCHASSIS
TELAIO BASE
F8/F9
VIDEO IN
VIDEO OUT
SDA
SCL
CLK
TXT


Hillmar Krüger
UHER-Servicestelle
Torstr. 3, Tel. 0511 / 80 36 26
3000 Hannover

ALIGNMENT

INSTRUMENTS: Oscilloscope ≥ 0.2 V/cm.
Voltmeter 10 to 200V FS with internal Z of ≥ 40 KOhm/V.

1. Power supply

a) Tune to a signal.
b) Brightness and contrast controls set to minimum. Adjust R59 for obtain on D7 cathode the same value that you will find on the electrical circuit.

2. IF and traps

a) Tune to a CCIR signal by tuning the channel in frequency mode.
b) Voltmeter set to 10V full scale, it's probe on FS4. Using a plastic screendriver, adjust L29 for by reading on the voltmeter.
c) Tune signal ~1mV in antenna and voltmeter 10V full scale on Pin 5 of the tuner.
Adjust R24 till AGC intervenes and the voltage begins to decrease from 8,5 to 9V level to 8 to 8,5V.
and the voltage begins to decrease from
d) Observing the scope adjust L2 for minimum of 5.5 MHz on the white bar.
e) Adjust L11 for minimum of 4,43 MHz signal on the colour bar.

3. R G B

a) Signal as in item 2a applied to antenna input. R11 and R17 cursors set at mid position. R11 and R17 located on the CRT base board. Brightness and contrast set at minimum.
b) Voltmeter set at 200V full scale, check for the highest voltage at the collectors of TR1, TR3 and TR5, and adjust G2 pot. to obtain 190V d.c.
c) Increase the brightness control till the black bar of the colour bar signal is just turned off.
d) Increase the contrast control to approx 3/4 of its total course.
Adjust R11 and R17 on the CRT Base Board so that the Tint of the white bar is the same as that of the successive black bar.
e) Adjust the focus by means of Foc pot.

4. Croma

a) Signal as in item 2a applied to antenna input.
Connect PIN 1 and 5 of IC5 with 100 Ohm resistor.
b) Link PIN 24 and 25 of IC5.
c) Adjust C74 for steady colour bars. Remove the connections of 4 (a) and 4 (b).
d) Oscilloscope probe on PIN 17 of IC5.
Adjust R101 and L14 to overlap the 2 consecutive lines.

5. Geometry

a) Apply a monoscope signal to antenna input.
b) Horizontal oscillator: link PIN 8 and 28 of IC1 and adjust R44 for a steady picture. Remove the link.
c) Adjust R50 to centre the picture horizontally.
d) Adjust R79 for proper vertical height.
e) Adjust R77 for proper vertical linearity.
f) Cutting links J205 and J206 successively adjusts the vertical centering of the picture.
g) Adjust L17 for proper horizontal width.
h) On DM adjust R14, R12, R9 for horizontal width, pin-cushion and trapezium respectively.

6. Secam Decoder

a) Tune to secam colour bar signal. Apply oscilloscope probe to pin 4 of TDA 3590 A.
b) Adjust core of L2 to obtain same amplitude of red and blue line.
c) Move probe to pin 20 of IC1 and adjust alternatively L1 and R2 to bring the black side of the red and blue line to black level simultaneously.
d) Readjust L2 to obtain the demodulated blue sides with minimum overshoot and undershoot.

EINSTELLVORSCHRIFTEN

Messgeräte: Oszilloskop, Gleichspannungsvoltmeter mit 40 KOhm - Innenwiderstand

1. Stromversorgung

a) Antennensignal einspeisen.
b) Helligkeit und Kontrast auf Minimum regeln. An der Kathode der D7, den im schaltplan angegebenen wert mit R59 einstellen.

2. ZF-Stufe und Fallen

a) Sender mit CCIR-Norm durch Aufrufen der Sender-Frequenz abstimmen.
b) Voltmeter mit hohem Eingangswiderstand an FS4 anschliessen und 6V durch L29 mit Plastikschraubenzieher einstellen.
c) Antennensignal mit ~1mV-Pegel einspeisen. Voltmeter an Tu5 anschliessen und mit R24 tunerverzögerungsspannung auf 0,5V unter des Maximalwertes einstellen.
d) Mit Oszilloskop Tonträgersignal (5,5 Mhz) auf weissen Balken durch L2.
e) Farbträgersignal (4,43 Mhz) auf Farbbalken durch L11 auf Minimum bringen.

3. R G B

a) Antennensignal wie in 2) einspeisen.
Schleifer von R11 und R17 auf der Bildröhrenplatine auf Mitte stellen.
Helligkeit und Kontrast auf Null regeln.
b) Mit Voltmeter (200V-Messbereich) Gleichspannung auf Kollektoren von TR1, TR3 und TR5 messen und die höchste Kollektorspannung durch den G2-Regler auf 190V einstellen.
c) Helligkeit so weit erhöhen, bis der schwarze Balken gerade noch sichtbar wird.
d) Kontrast auf circa 3/4 erhöhen, R11 und R17 so einstellen, dass die Farbtönung des weissen Balken gleich der des Balken neben dem schwarzen ist.
e) Beste Bildschärfe durch den Regler (FOC) einstellen.

4. Chrominanz

a) Antennensignal wie in 2) einspeisen.
Stifte 1 und 5 von IC5mit einen 100-Ohm-Widerstand verbinden.
b) Stifte 24 und 25 von IC5 verbinden.
c) Mit C74 Farbbalken zum Stehen bringen.
Verbindungen nach 4a) und 4b) entfernen.
d) Oszilloskop an Stift 17 von IC5 anschliessen.
Mit R101 und L14 Farbbalkensignal von zweieinander nachfolgenden Zeilen zur Deckung bringen.

5. Geometrie

a) Antennensignal mit geeignetem Testbild einspeisen.
b) Zeilenoszillator: Stifte 8 und 28 von IC1 verbinden und mit R44 minimalen Bildlauf einstellen. Verbindung enfernen.
c) Mir R50 horizontale Bildlage einstellen.
d) Mit R79 Vertikal-Amplitude.
e) Mit R77 Vertikal-Amplitude.
f) Brücken J205 und J206 nach Bedarf für beste Vertikal-Bildlage einsetzen bzw. wegnehmen.
g) Mit L17 Horizontal-Amplitude.
h) Mit Regler R14, R12 und R9auf Diodenmodulator jeweils Horizontal-Amplitude, Kissen-und Trapezentzerrung iustieren.

6. Secam-Decoder

a) Farbbalkensignal, Standard Secam G, einspeisen. Oszilloskop an Stift 4 von IC1 anschliessen.
b) Kern von L2 so einstellen, dass die Amplitude des roten gleich der des blauen Balken ist.
c) Oszilloskop an Stift 20 von IC1 anschliessen Kern von L1 und Trimmer R2 wechselweise so einstellen, dass der schwarze Balken der roten und blauen Zeilen mit dem Schwarzwert des Signals übereinstimmt.
d) Einstellung von L2 wiederholen damit Über- und Unterschwingungen des demodulierten blauen Signals minimal sind.

TARATURE

Strumenti necessari: Oscilloscopio con sensibilità ≥ 0,2V cm. - Voltometro 10 — 200V fondo scala con Z interna ≥ 40 KOhm/V.

1. Alimentazione

a) Sintonizzare un segnale.
b) Comandi di luminosità e contrasto al minimo. Regolare R59 per ottenere sul catodo di D7 il valore indicato sullo schema.

2. Media frequenza e trappole

a) Sintonizzare un segnale CCIR usando la chiamata in frequenza.
b) Voltmetro 10V fondo scala su FS4, con cacciavite di plastica regolare L29 per leggere 6V.
c) Con un segnale di antenna ~1mV leggere, con un voltmetro 10V fondo scala, in TU5. Regolare R24 per l'intervento del CAG.
La tensione deve cominciare a scendere e portarsi da 8,5-9V a 8-8,5V.
d) Osservando l'oscilloscopio regolare L2 per il minimo segnale di 5,5 MHz sulla barra bianca.
e) Regolare L11 per il minimo segnale a 4,43 MHz sulle barre di colore.

3. R. G. B.

a) Segnale come al punto 2.a in antenna. Cursori di R11 e R17, sullo zoccolo cinescopio, a centro corsa. Comandi luminosità e contrasto al minimo.
b) Con voltometro 200V fondo scala scegliere la tensione più alta presente sui collettori di TR1 - TR3 - TR5 e ruotando il potenziometro G2 portare la lettura a 190V dc.
c) Aumentare la luminosità per avere la barra nera appena spenta.
d) Aumentare il contrasto a circa 3/4 della regolazione totale e regolare R11 e R17 sullo zoccolo cinescopio affinchè la tinta della barra bianca sia uguale a quella successiva alla nera.
e) Aggiustare il fuoco per mezzo del potenziometro Foc.

4. Croma

a) Segnale in antenna come al punto 2.a. Collegare, tramite resistenza da 100 Ohm, i piedini 1 e 5 di IC5.
b) Cortocircuitare i piedini 24 e 25 di IC5.
c) Regolare C74 per fermare le barre di colore. Eliminare i collegamenti del punto 4.a e 4.b.
d) Sonda dell'oscilloscopio sul pin 17 di IC5. Regolare R101 e L14 per sovrapporre le righe consecutive.

5. Geometrie

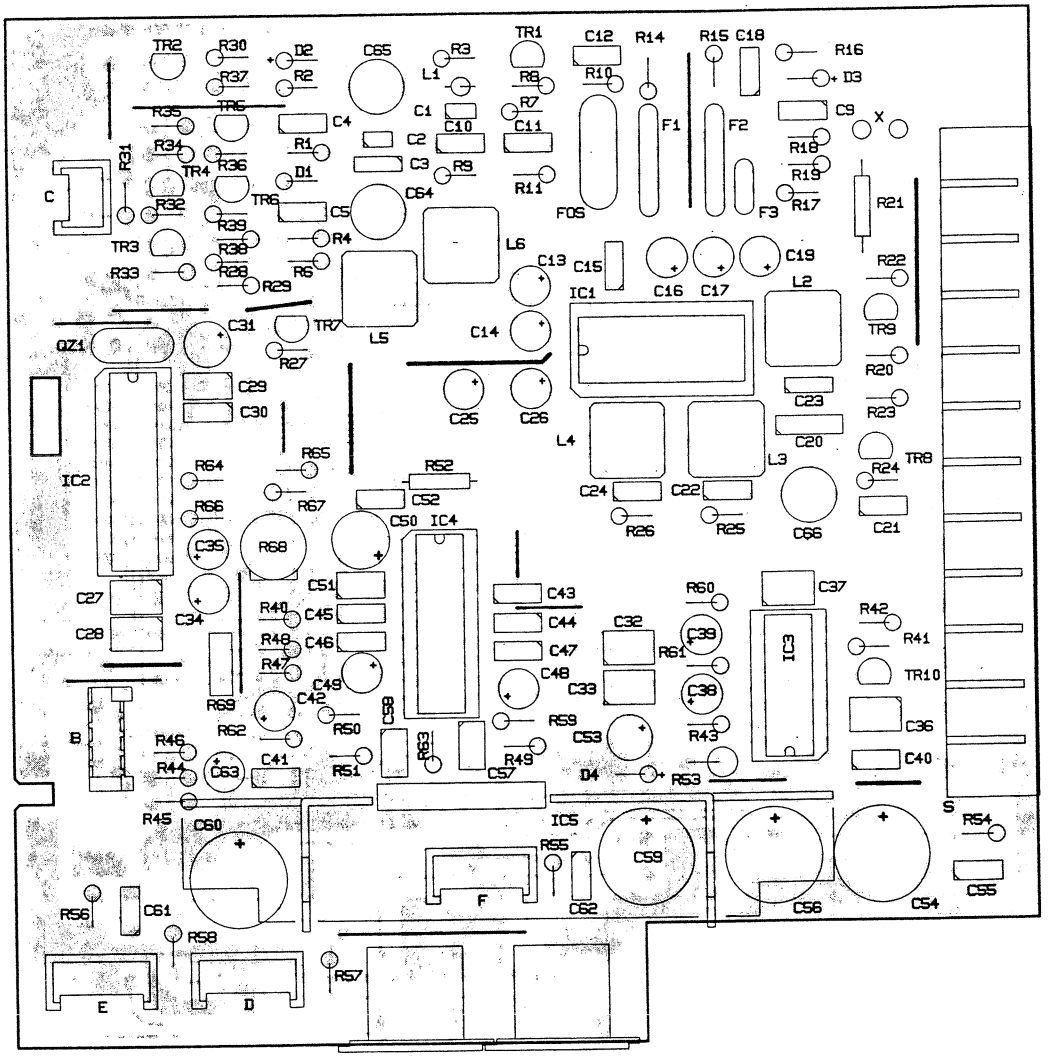
a) Porre in antenna un segnale di monoscopio.
b) Oscillatore orizzontale: Ponticellare i piedini 8 e 28 di IC1 e regolare R44 per il minor scorrimento orizzontale della figura. Togliere il ponticello.
c) Regolare R50 per avere una corretta centratura orizzontale.
d) Regolare R79 per la corretta ampiezza verticale.
e) Regolare R77 per la corretta linearità verticale.
f) Tagliando i ponticelli J205 e J206 in successione regolare la centratura verticale dell'immagine.
g) Regolare L17 per la corretta ampiezza orizzontale.
h) Sul DM agire su R14, R12, R9 per regolare rispettivamente: Ampiezza orizzontale, cuscino e trapezio.

6. Secam decoder

a) Sintonizzare un segnale a barre SECAM e porre la sonda dell'oscilloscopio al pin n. 4 del TDA 3590 A.
b) Regolare il nucleo di L2 per ottenere la stessa ampiezza delle righe rosse e blu.
c) Spostare la sonda sul pin n. 20 di IC1 e tarare alternativamente L1 e R2 per portare contemporaneamente a livello zero la barra nera delle righe rosse e di quelle blu.
d) Ritoccare L2 per ottenere i fianchi del blu demodulato con il minimo di overshoot e undershoot.

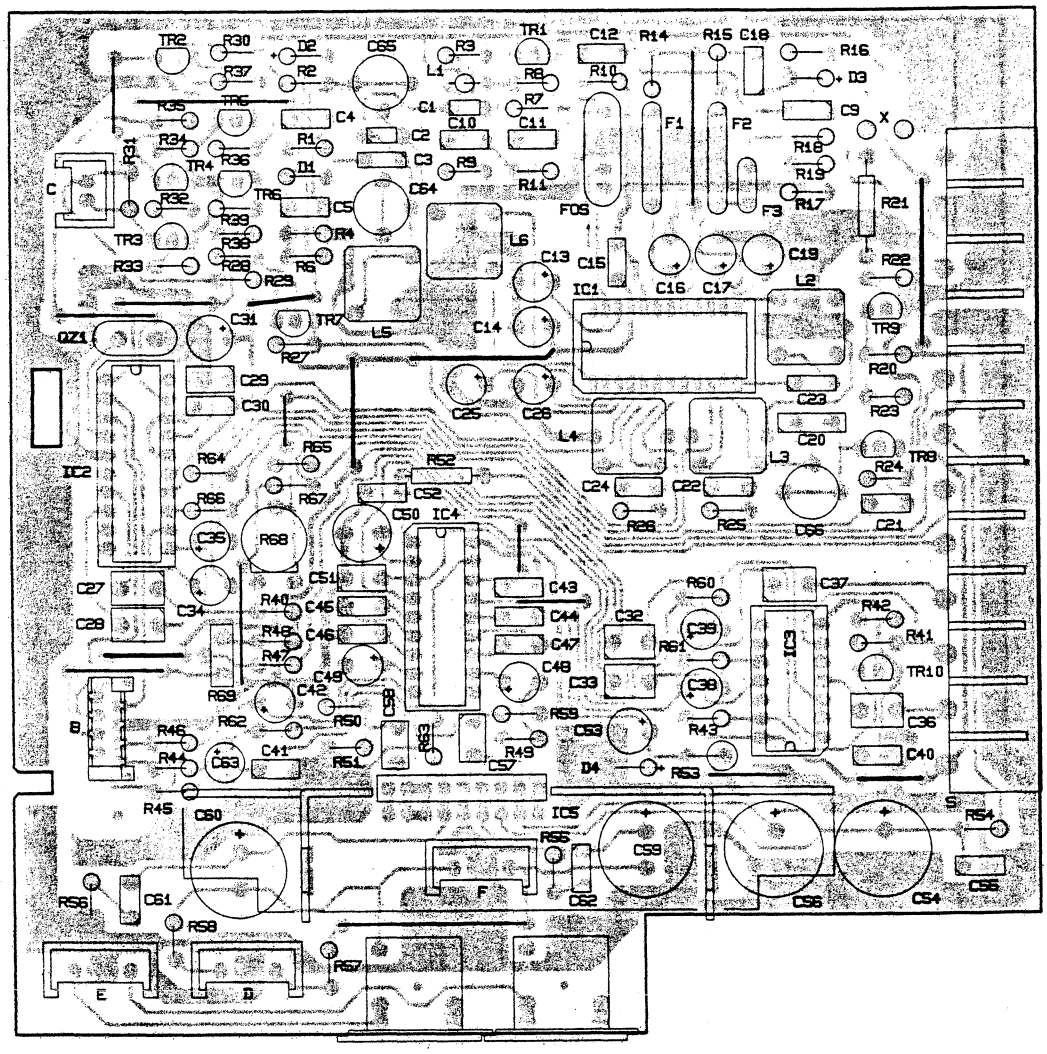
STEREO DECODER

O. S. D.



COMPONENTS SIDE

STEREO DECODER
O. S. D.



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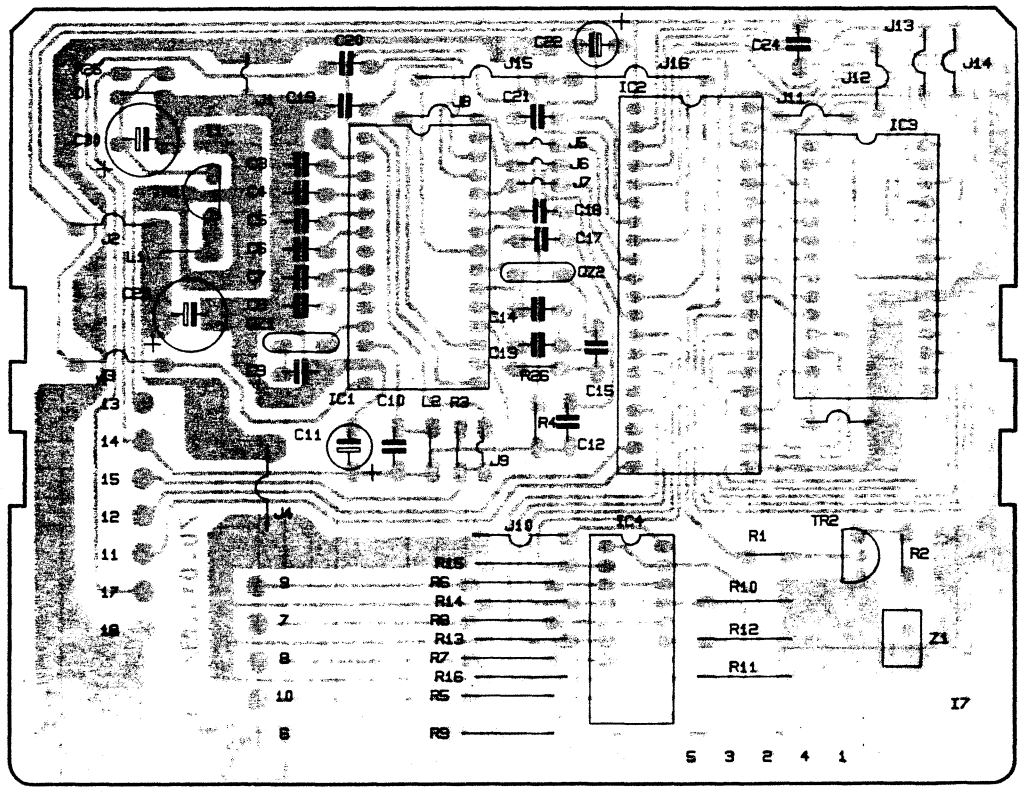
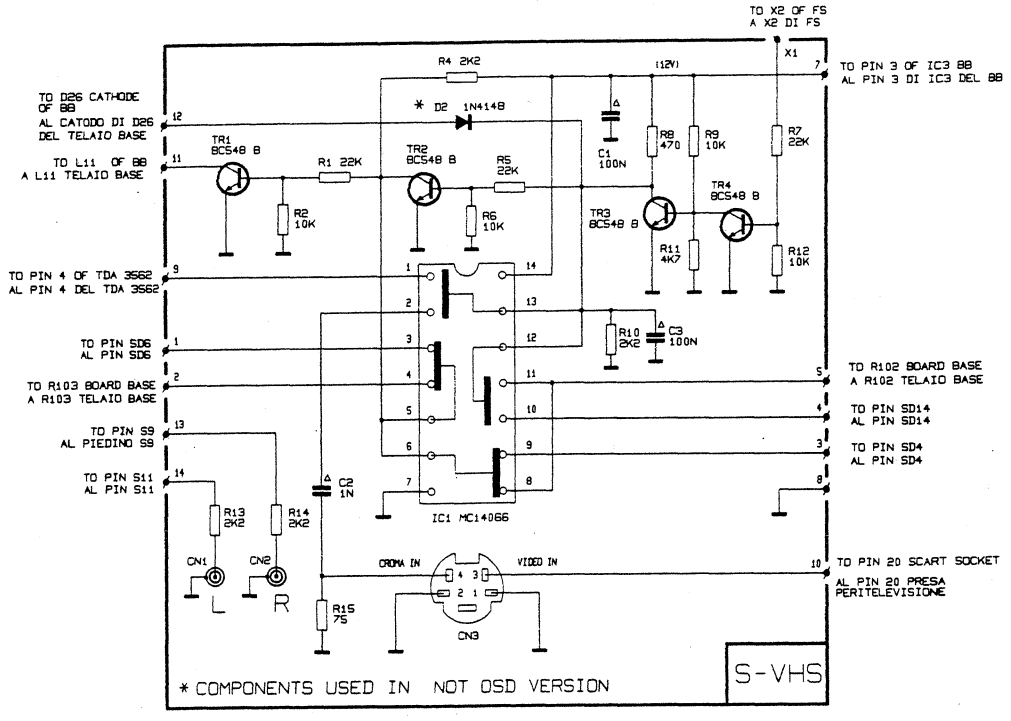
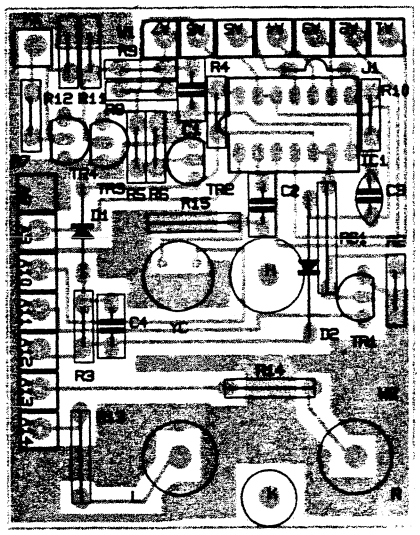


COMPONENTS SIDE



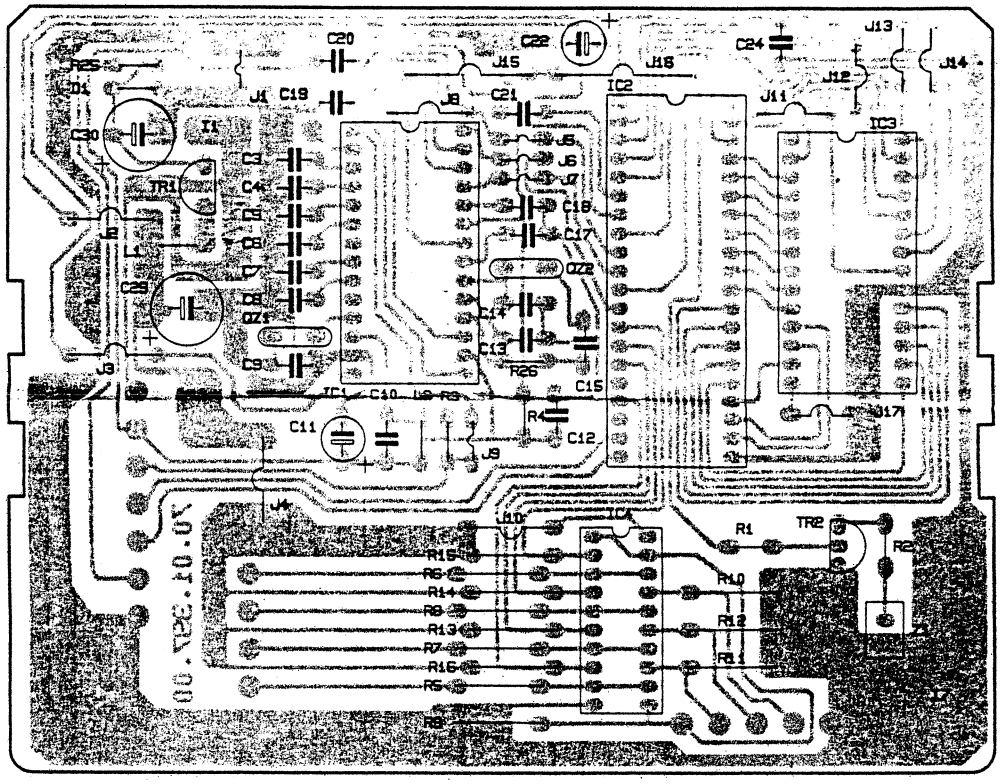


COMPONENTS SIDE

TELETEXT DECODER

unit O.S.D. - fig. F 9.01

65.50330.00 09/90

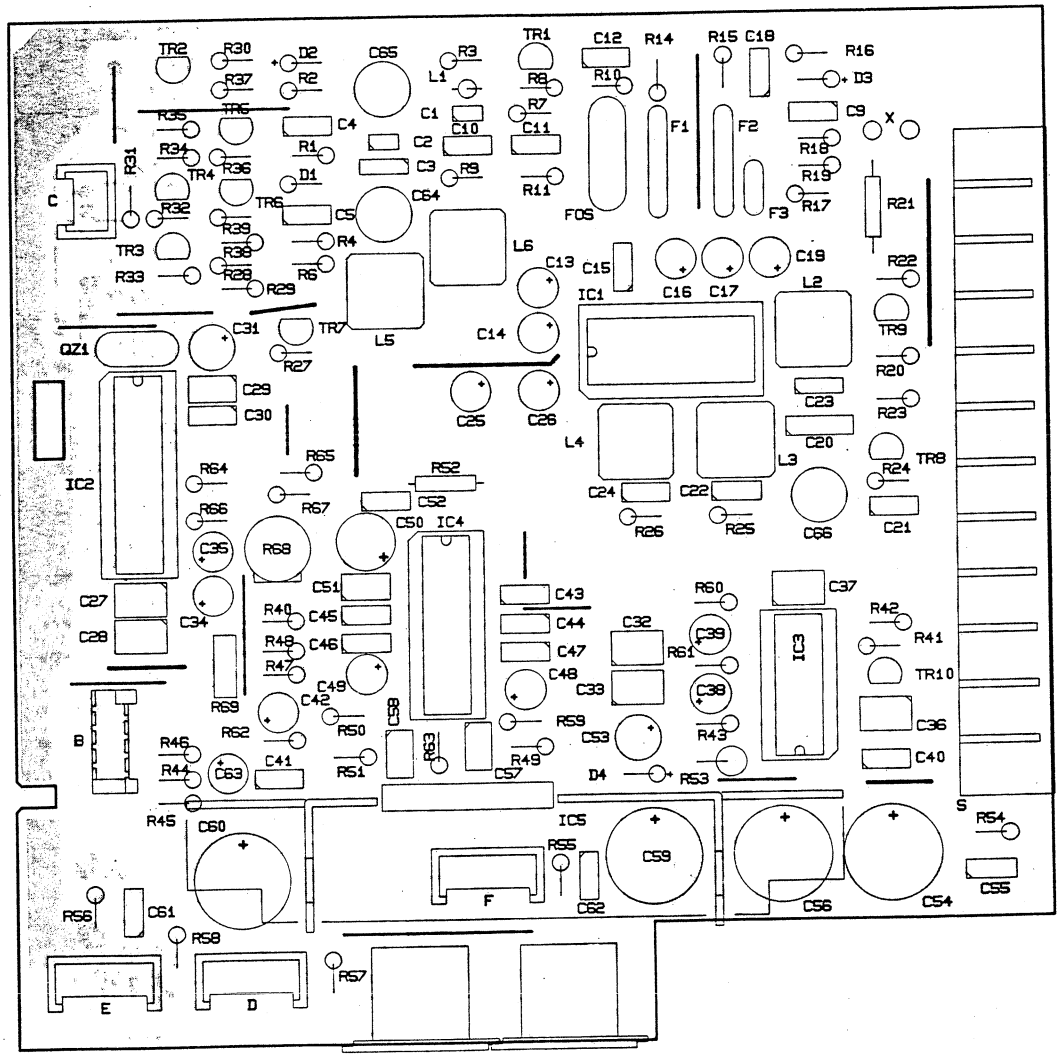


TD TELETEXT DECODER
DECODIFICATORE TELETEXT
09.03.70.050

COMPONENTS SIDE

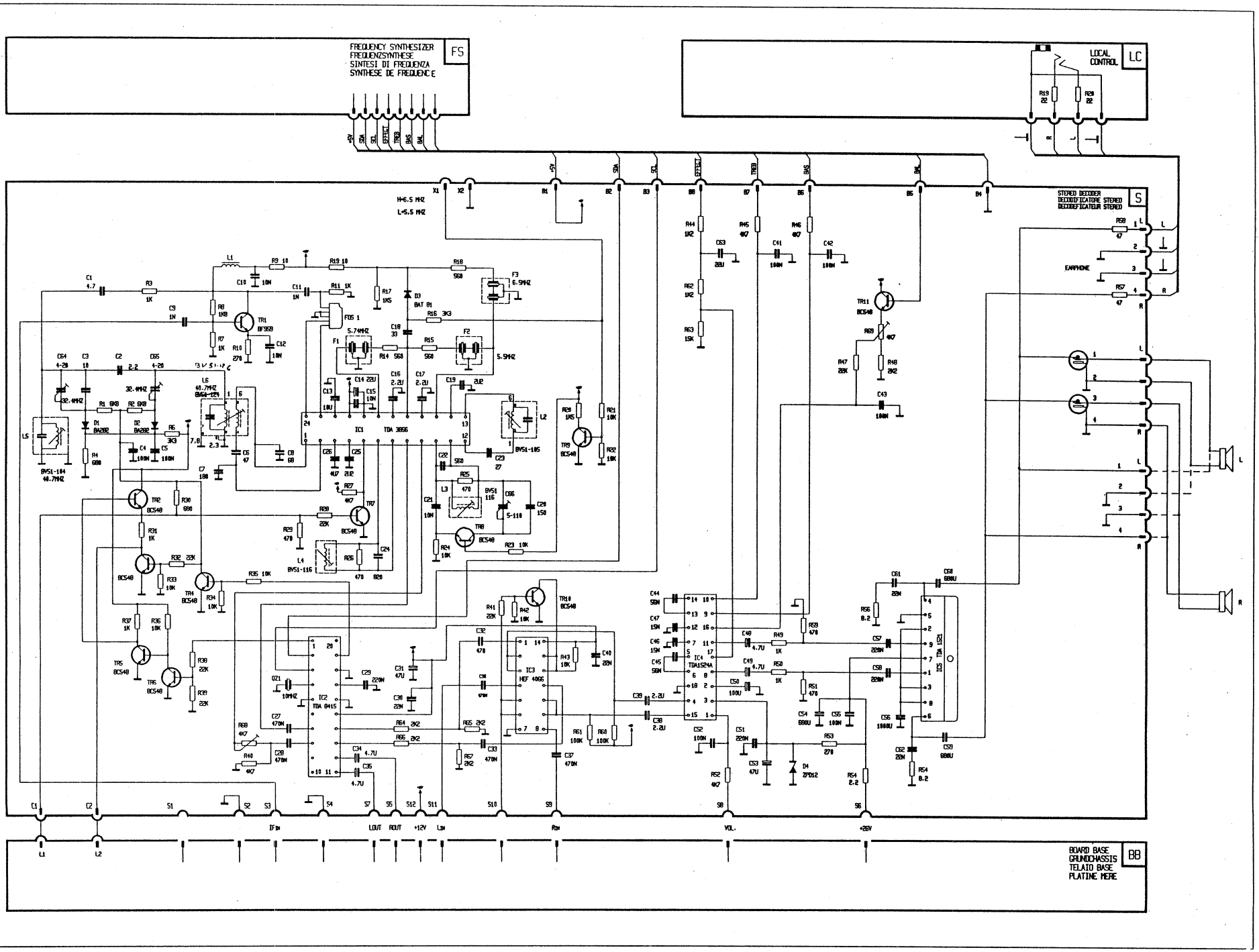
LATO COMPONENTI

STEREO DECODER
O. S. D.



65.5033200 / 06.90

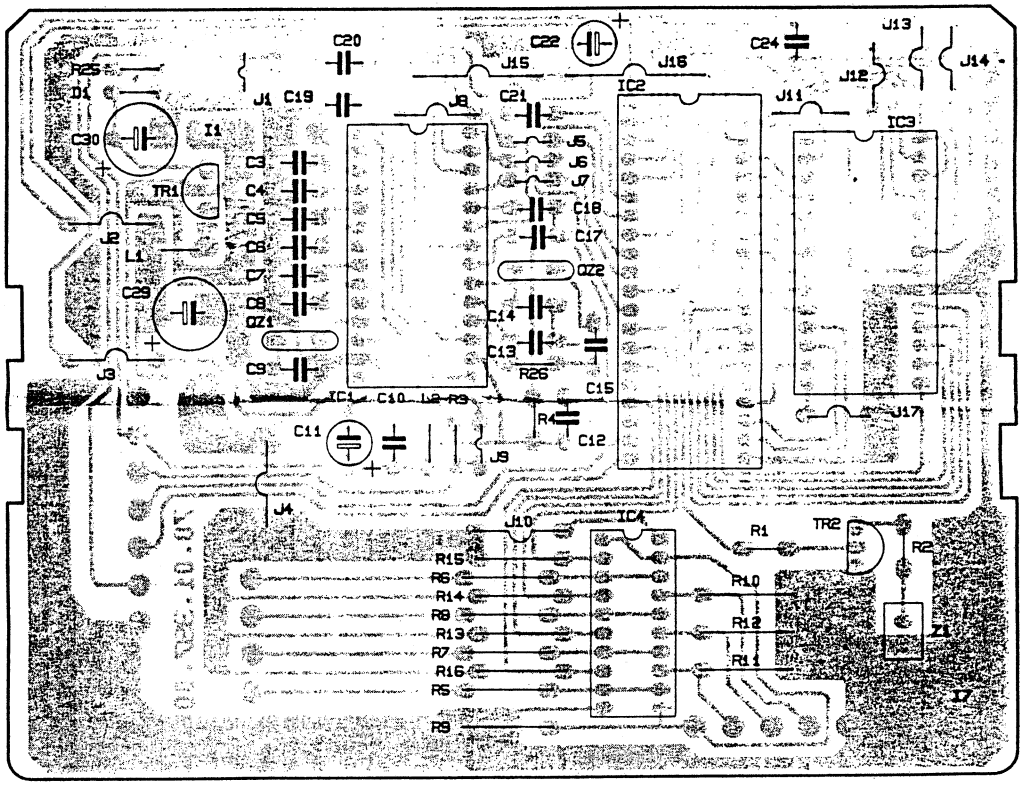
COMPONENTS SIDE


FREQUENCY SYNTHESIZER
FREQUENZSYNTHESE
SINTESI DI FREQUENZA
SYNTHESE DE FREQUENCE
FS
LOCAL CONTROL
LC
STEREO DECODER
DECODIFICATORE STEREO
DECODIFICATEUR STEREO
S
EARPHONE
BOARD BASE
GRUNDCHASSIS
TELAIO BASE
PLATINE MERE
BB
H=6.5 MHZ
L=5.5 MHZ
IC1 TDA 3856
IC2 TDA 6415
IC3 HEF 4066
IC4 TDA1524A
IC5 TDA 1524
IF IN
LOUT
ROUT
+12V
LIN
RIN
VOL.
+25V

TELETEXT DECODER

mit OSD für F9.01

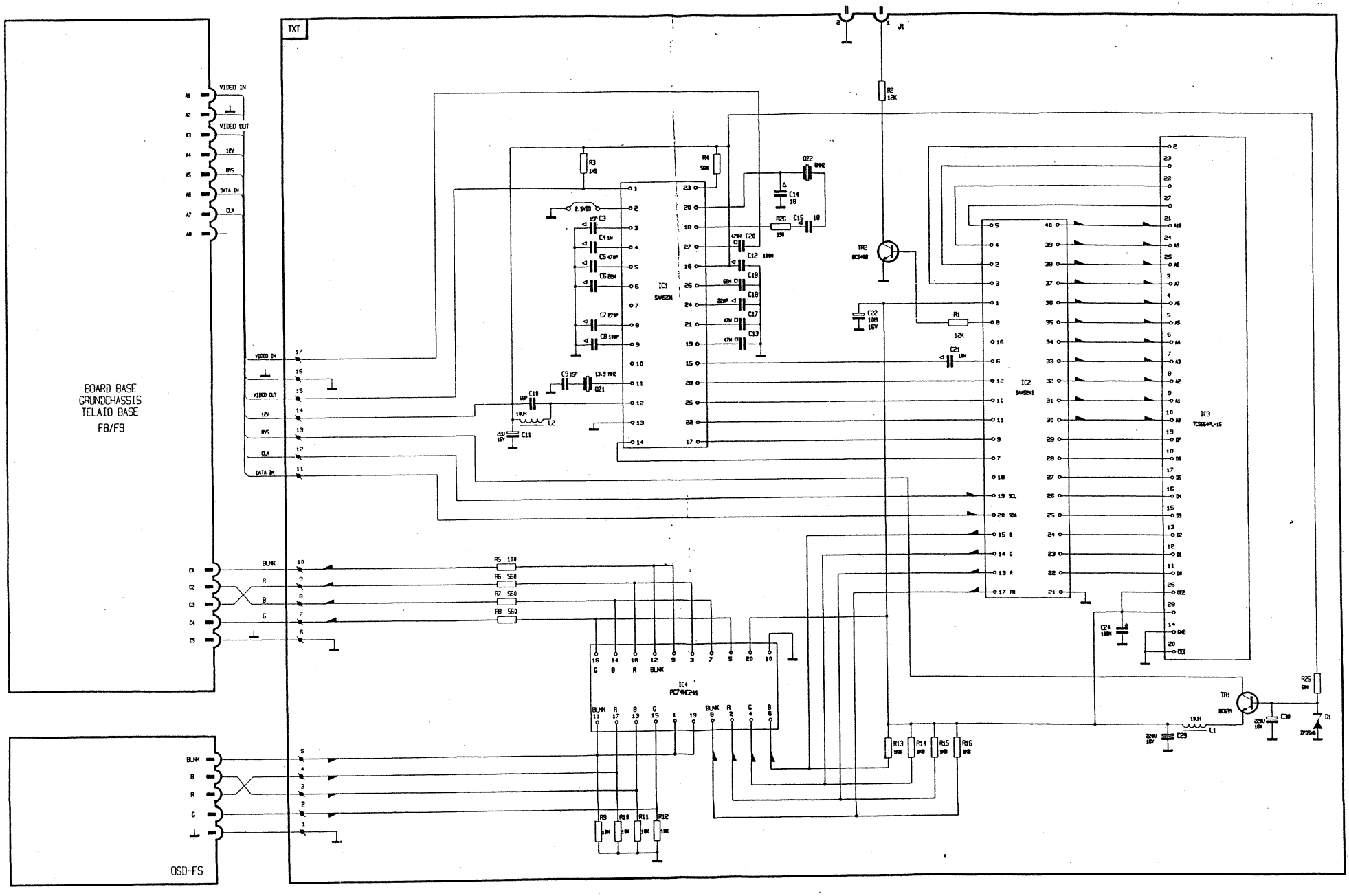
65.503300 09/90



TD TELETEXT DECODER
DECODIFICATORE TELETEXT
09.03.70.050

COMPONENTS SIDE

LATO COMPONENTI


TXT
BOARD BASE
GRUNDCHASSIS
TELAIO BASE
F8/F9
OSD-FS
VIDEO IN
VIDEO OUT
12V
BVS
DATA IN
CLK
BLANK
R
B
G
J1
R2 12K
IC1 SAA5231
IC2 SAA5243
IC3 TCS664PL-15
IC4 PC74C241
TR1 BC639
TR2 BC548
L1 10UH
L2 10UH
D1 ZPD5V6
R1 12K
R3 1K5
R4 56K
R5 100
R6 560
R7 560
R8 560
R9 R10 R11 R12 10K
R13 R14 R15 R16 1KB
R25 68R
R26 33R
C14 1B
C15 1B
C21 10N
C22 10N 16V
C24 100N
C29 220U 16V
C30 220U 16V